



# DENTAL HEALTH BEHAVIOUR OF ADOLESCENTS AND THEIR PARENTS

Júlia Bartos<sup>1</sup>, \*Judit Mészáros<sup>2</sup>

<sup>1</sup>Dentist, student of Semmelweis University PhD School  
Scientific counsellor: Dr. Sándor Hollós, PhD

<sup>2</sup>Psychologist, Dean of the Faculty of Health Sciences, Semmelweis University  
Rector of Semmelweis University: Prof. Dr. Ágoston Szél

## Summary

The aim of the first chapter of the two-part study is to explore and to show dental-care patterns, oral hygiene knowledge and dental fear of a given age group of Hungarian young people (12-16 years) and their parents. In the 344-person sample we applied a questionnaire made by ourselves and two standard tests (DFS and DAS) as our data-collection and research method. In the results we compared common and different aspects of the children's and adults' behaviour and concluded that there are some differences in the children's and adults' dental attitude. In the conclusions we recommend the necessary and indispensable development of the oral-hygiene culture considered a slightly neglected area and the alleviation of the phenomenon of dental fear by means of professional prevention.

Key words: oral hygiene patterns, dental-care culture, health behaviour, parent example, dental fear

## INTRODUCTION

People of present days do not appreciate too highly their healthy sets of teeth, though teeth have several important functions in our everyday lives: chewing, sound formation, digestion, speaking – and by no means negligible aesthetic function indispensable for feeling well, for positive self-esteem. That's why it is essential to include and apply dental prevention in medical practice moreover educating, training and instructing specialists assisting in dental care is also of great importance in this preventive aspect and practice.

This paper touches a specific branch of health sciences, the borderland between dentistry and health promotion and describes knowledge of dental-hygiene, dental fear and the possibilities and health-promotion and psychoeducation dealing with this special field."To examine children-population was highly reasonable since a research independent of ours (Alberth and colleagues, 2002) had already published data on the 12-14 age-group and showed that the value of the Hungarian children's dental fear is high just like at the adult population" (1).

Unfortunately, generally neglected oral hygiene, or its total lack means a too frequent problem in dental health education. Its development is mainly attributable to the ignorance of parents and their children, their wrong health promotion knowledge, the parents' lack of time and indifferent attitude."It is very difficult to set a good example, since parents themselves are ignorant and do not support their children's education for oral hygiene because of lack of time. Their own health-culture is also on a basic level so they cannot give a good example either." (2).

For the studied target group family patterns, oral hygiene socialisation patterns may be decisive and if the skill-level interiorization of dental hygiene culture as an everyday value and practice has not been important in the family traditions the teenager can only include it into his/her everyday life by his/her own cognition and inner motivation. Thus he/she can be followed as a good, positive model just for the reason that outer appearance, visibility, good-looking and the desire to be liked are very important in this very sensitive period of life. Moreover at this age a painful dental intervention may also become a behaviour generating fear since adolescents can react sensitively, unexpectedly, with psychic instability on events around and connected with them.

The phenomenon of dental fear is a component of the attitude towards dental issues. The development of fear is usually bound to an unambiguous cause – in the present case the idea, awareness of dental intervention, the sight of the dentist, smells typical for dental surgeries, or simply mentioning the topic may also elicit fear. 'The increased dental fear is a relatively frequent phenomenon, international data show that the involvement of West-European and North-American average population is between 5-15%, in certain researches there occur values even higher than this, though (3).

In a narrow and limited sense of the word dental fear can develop in an individual in connection with dental interventions and in pathological cases in such a degree that this negative emotion will induce changes in behaviour or conduct. Thus e.g. constant time delay, strengthening of defence mechanisms, abnormal inwardness, hys-

teria, psychosomatisation might also be concomitants and at the same time consequences of severe dental fright. The studied age group is increasingly exposed to the appearance of dental fear, since the frequent phenomenon of emotional waves, learning emotional control, struggle for forming an ideal self-image and realistic self-knowledge are the most important corollaries of adolescence.

**AIM**

The two-sample survey is surrendered to three main research aims: partly to explore the dental- and oral hygiene knowledge and patterns of 12-14 year-old secondary school students and their parents, partly to compare the main features of children's and parents' attitudes towards tooth care and dental issues and also to describe the process how parents and children learn their health behaviour and thirdly to outline the possibilities of prevention and health promotion in the development of oral hygiene culture.

**MATERIAL AND METHODS**

The sample of the research is of two age groups: 168 adolescents and 163 parents have completed the questionnaires validly. The adolescents are students in Budapest secondary schools, the survey was carried out in the schools, in different programs and in dental surgeries when the questionnaires were immediately returned. The gender distribution of the sample (tab. 1) shows that more girls than boys completed the questionnaires and the average age of the respondents was 14 years.

Among the respondent parents the proportion of females was also higher and the adults' average age was 43 years (tab. 2).

Table 1 . Gender distribution.

<b>Gender distribution students n=186 people</b>		
Girl	108	58%
Boy	78	42%
Average age	14 years	

Table 2. Gender distribution II.

<b>Gender distribution II Parents n=163 people</b>		
Female	132	81%
Male	31	19%
Average age	43 years	

As for the qualification of parents: most of them enjoy a higher education degree (71%) and only 13.5% don't have a secondary school leaving certificate at least (tab. 3).

Table 3 . Parents' questionnaire

<b>Parents' questionnaire n=163 people</b>		
<b>Qualification</b>	<b>People</b>	<b>%</b>
8-year primary school	10	6,1%
3-year vocational training school	12	7,4%
Vocational secondary school	18	11,0%
Secondary grammar school	26	16,0%
Higher level vocational training after matriculation	26	16,0%
College degree	36	22,0%
University degree	35	21,5%

In our research we used two types of questionnaires: a questionnaire of 20 closed questions made by ourselves and two standard tests. When evaluating the open questions in our own questionnaire we grouped the answers in four categories: "complete", "incomplete", "false" and "no answer". Furthermore for the adolescents we used the Dental Anxiety Scale (DAS), which was first published in 1969 as the first test measuring dental fear (4). The scale contains four questions, each of them can be evaluated from 1 to 5 points depending on the degree of fear. So the minimum value to be obtained is four, the maximum twenty points. There are several scales for the evaluation, we accepted the ranges considered standard by Hakeberg and colleagues (3).

For parents we applied another test, the Dental Fear Scale (DFS), which was first published in 1973, contains 20 questions and the respondent can select the level of fear on a five-point scale. The evaluation categories for this test were set by Johansson (5).

**RESULTS**

Among the questions relating to the general dental and oral hygiene knowledge approximately the same proportion of parents and children (72 and 77 people) gave "complete" i.e. correct answer to the question about the reasons for using a mouth-shower (fig. 1). "Incomplete" answers were characteristic rather for the students (78 people), while "false" answers were mainly given by the parents (29 people).

Knowledge about tartar/plaque formation proved to be "incomplete" in both samples, 59 of the parents and 98 of the students only guessed what tartar was and why it should be removed. Adolescents were better informed: 32 parents' and 45 students' answers were "complete" about this question and the proportion of "false" an-

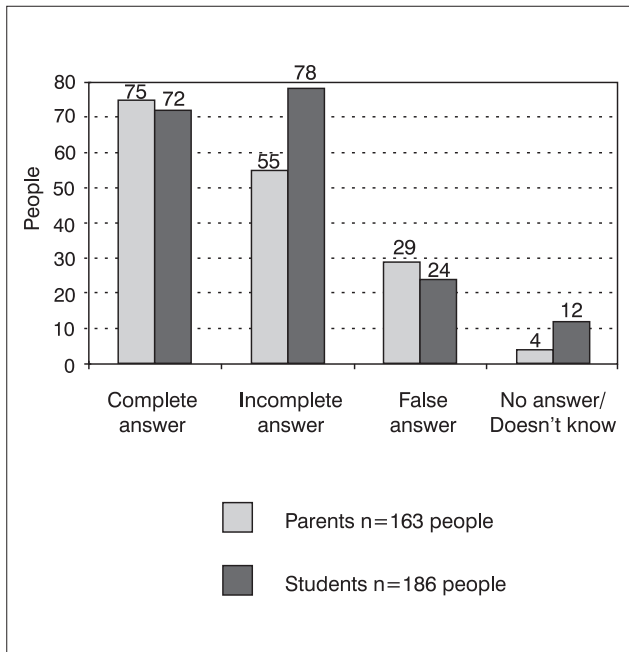


Fig. 1. Why to use mouth-shower?

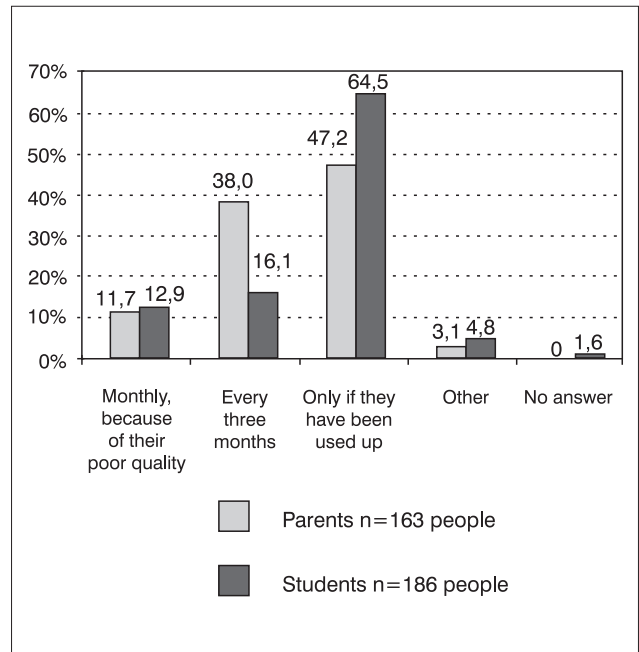


Fig. 2. How often to change toothbrushes?

swers was also higher among the parents (46 people). Furtheron 26 parents and 20 students could not give any explanation about the nature of tartar (fig. 3).

The cause of gum bleeding/gingival was explained correctly by 65 people among the students and 36 of the parents. The explanation for gum bleeding given by 70 students was "incomplete" while most adults gave "false" answers (57 people). The answer "I don't know/No answer" was selected by four times more parents than adolescents (28 and 6 people) (fig. 4).

Most answers about using dental floss – given both by parents and by students – fall into the category: "I never use any" (109 and 108 people). 60 of the students uses dental floss occasionally and only 27 parents selected this possibility. 26 parents and 18 students regularly use dental floss (fig. 5).

Most respondents, 41.1% of parents and 50% of students – choose the type of toothbrush depending on the characteristics of the teeth and gum, for 19.6% of the adults and 21% of the students it does not matter what

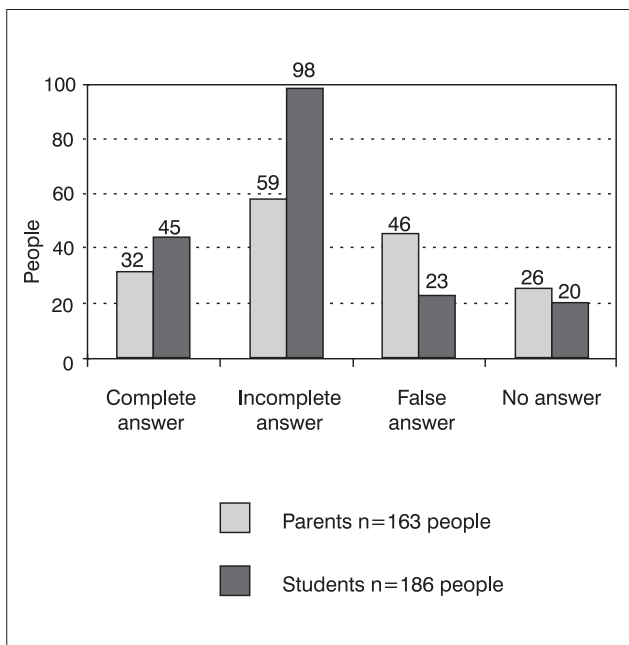


Fig. 3. What is tartar/plaque and why to remove it?

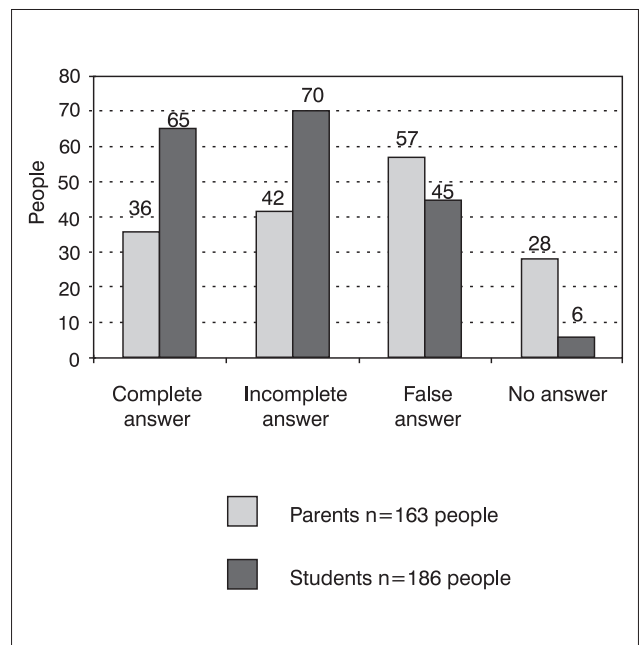


Fig. 4. What does gum bleeding/gingival indicate?

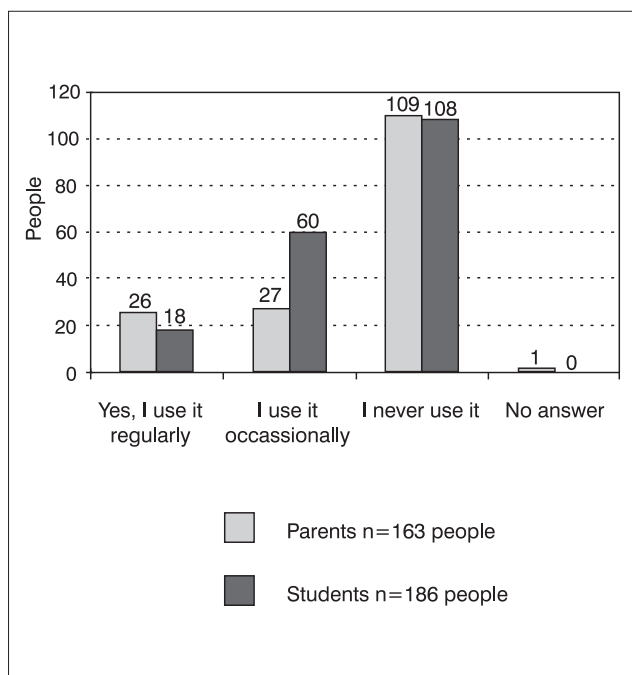


Fig. 5. Patterns for using dental floss.

type of toothbrushes they use. 9.25% of the parents and 1.6% of the students voted for the type just advertised in the media (fig. 6).

Dental check-up in every half a year is considered necessary by 67.7% of the students, while 41.7% of the parents think yearly dental check-up necessary. 33.1% of the adults think that to see the dentist is necessary only when someone has complaints, 9.7% of the stu-

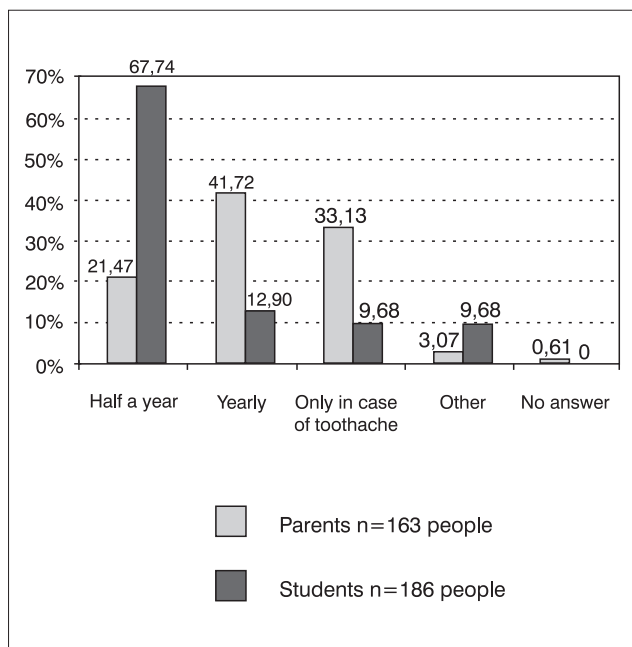


Fig. 7. Frequency of dental check-up.

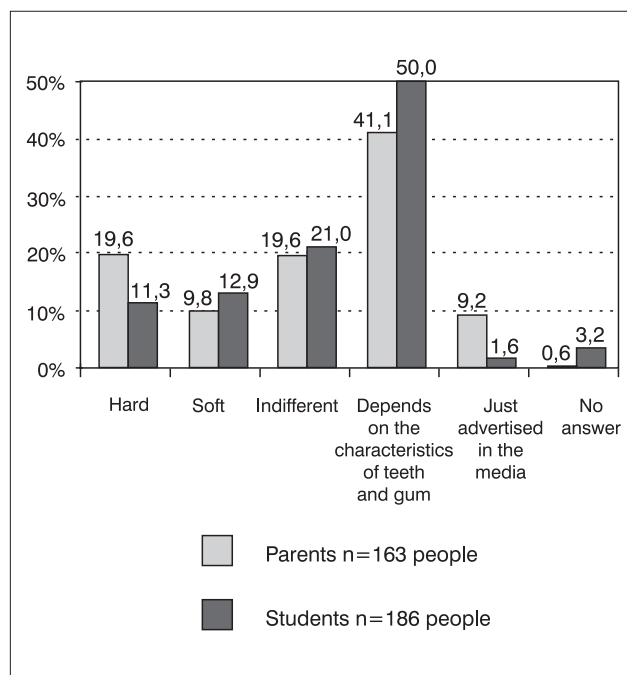


Fig. 6. Type of the optimal toothbrush.

dents shares this opinion. No significant difference can be shown between the parents' and children's data sets ( $t = 0.15$ ;  $p < 0.005$ ) (fig. 7).

As regards the emotional attitude towards dental treatments 35% of the adults and 11.3% of the students go to dental surgeries with fear, 43.5% of the student is indifferent when going to the dentist's, as against the 17.8% of the parents. The answer "The same as at other

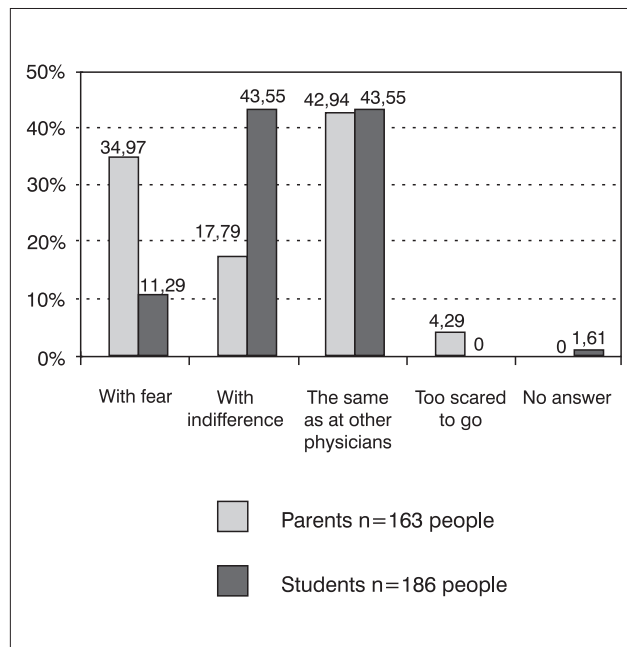


Fig. 8. How you feel when going to the dentist?

physicians” was selected by 42.9% of the adults and 43 % of the students. There is no significant difference between the data sets ( $t = 0.22$ ;  $p < 0.005$ ) (fig. 8).

The results of the standrad dental fear test show that only 20 students’ dental fear is of acceptable measure. Most respondents are scared of dental treatments in a medium degree, which need attention and 52 people have serious dental anxiety as a dental patient (fig. 9).

In their dental anxiety scale most parents (75%) relate to dental treatments with higher than average fear, while only 5 parents belong to the range of fear of average measure. 13% of the adult respondents do not feel real fear of the dentist, while 14 people sit into the dental chair with anxiety of pathological degree.

As regards the dental care among the priorities of expectations towards dental surgeries the first place goes to the professional competence of the staff, the good reputation of the team working in the surgery. The communication style of the experts has the second pŭlace, while the third factor in the rank is punctuality, keeping the appointment. The respondent parents put the aspect of accessibility and the importance of the objects, milieu to the last place.

DISCUSSION

1. When defining dental phenomena/tartar, gum bleeding/parents seemed to show more ignorance and lack of knowledge than students, which might be explained by that young people are more receptive to new information, their knowledge is fresher and more up-to-date. Due to their age they are more attentive to educational publications, public service advertisements, messages of educational campaigns. This fact is also proved by our results: among ‘false answers’ the proportion of adult respondents was higher and more children gave “incomplete” answers.
2. The use of dental floss, which is considered modern in dental care is typical for parents in the same rate as it is for their children, i.e. family example effects on the young people’s patterns.
3. When choosing the optimal toothbrush – quite surprisingly – parents are more influenced by the media than their children, i.e. our results show that adults are more susceptible customers as regards dental-care tools.
4. There cannot be significant difference shown in the question of dental attitude, but both the results of

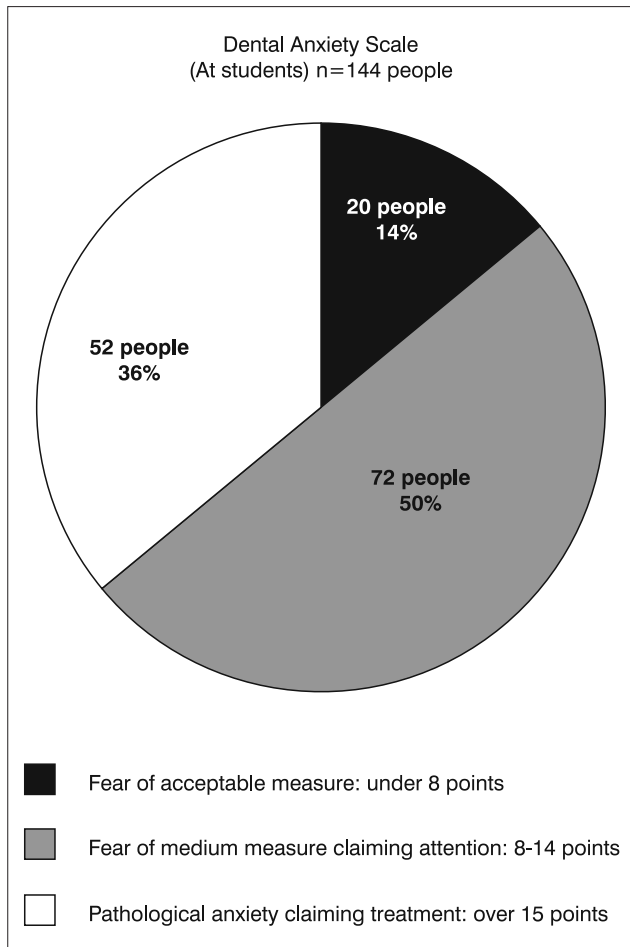


Fig. 9. Dental Anxiety Scale.

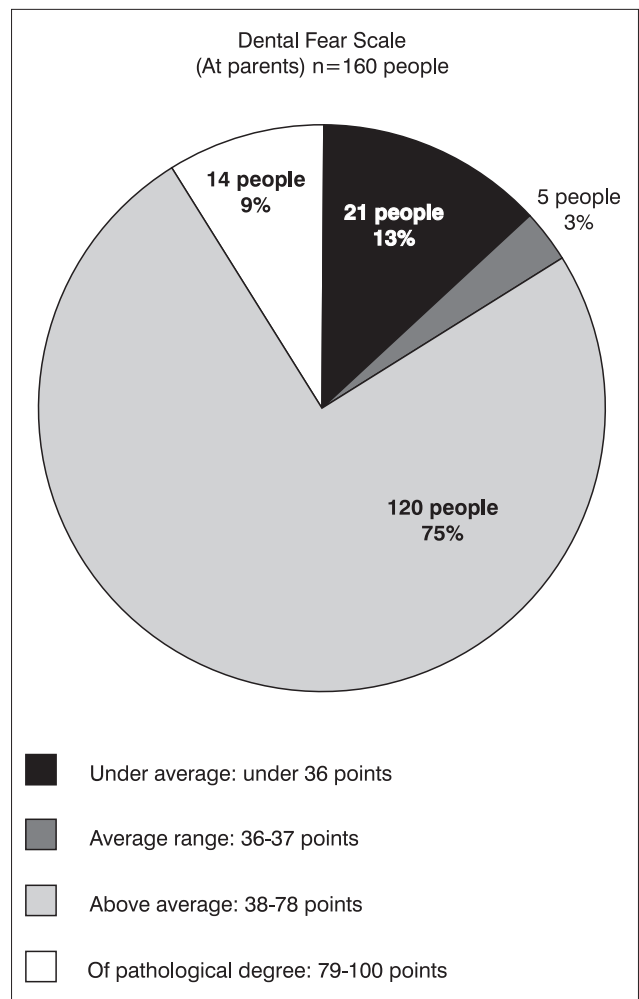


Fig. 10. Dental Fear Scale.

Table 4 . Rank what is important for you in a dental surgery.

Place of rank	1.	2.	3.	4.	5.	6.
Competence, good reputation of the staff people	67	30	11	16	23	8
Easy access	33	5	5	14	25	69
Material /financial, human correctness	24	41	14	27	41	8
Kindness, communication of the staff	14	52	31	36	13	6
Milieu, objects, facilities	13	16	34	22	24	45
Keeping the time, punctuality	5	9	60	40	27	15
Other/No answer	7	10	8	8	10	12

standard questionnaires and those of our own ones prove that parents show stronger fear towards dental treatments. Very likely they have more negative, frightening previous experience than their adolescent children.

5. Children consider regular dental check-up is necessary more frequently than their parents, which is a promising and instructive result from preventive point of view.
6. In the rank of aspects set by the adults for choosing a dental surgery professionalism, competence, helping-advising communication have priority, i.e. human factors are of greater importance than other practical aspects (vicinity, milieu, facilities, etc).

#### CONCLUSIONS

1. It is worthwhile to expand the primary and secondary dental prevention both to adolescents and their parents since in both age-groups the lack of up-to-date information and general knowledge can be detected.
2. In the adolescent group the chance to prevent the development of dental fear is great since they hardly have any negative experience.
3. Organising behaviour-shaping campaigns and adequate health education programs would be necessary to prevent or decrease the strong dental fear of parents.

4. Dental health behaviour should be shaped only holistically, since misbeliefs, wrong oral hygiene knowledge, ignorance and entrenched patterns often go together with the phenomenon of strong dental fear.
5. The importance of the message of the expertly and consciously applied helping-healing communication, verbal and non-verbal signs is undisputed in the prevention of the development of dental fear. "Another key factor of prevention is the quality of the dentist's activity. Without high-quality dentist-patient communication, the maximum pain relief... elimination of unnecessarily frightening aspects we can't speak about real, efficient prevention" (6). □

#### References

1. Alberth M, Gál N, Nemes J, Tövisskes M: Máth J. 12-14 éves gyerekek fogászati félelmének és szorongásának hatása a fogazati állapot alakulására. Fogorvosi Szemle 2002; 95: 113-117.
2. Pintér A: Néhány szó a fogszuvasodás megelőzéséről. Egészségnevelés. 34: 68-69.
3. Hakeberg M, Berggsen U, Carlsson S: Prevalence of dental anxiety in a n adult population in a major urban area in Sweden. Community Dent Oral Epidemiol 1992; 20: 97-101.
4. Fábíán TK és munkatársai: A Dental Fear Survey (a „Fogászati félelem kérdőív) magyar fordítása, hazai populáción végzett mérések eredményei. Fogászati Szemle 1999; 92:307-315.
5. Jonasson P, Berggsen U: Assessement of dental fear. A comparison of two psychometric instruments. Acta Odontol Scand 1992; 50: 43-49.
6. Fábíán G: A fogászati félelem okai, prevenciója és terápiás lehetőségei, különös tekintettel az orthodontiai és gyermekfogászati gyakorlatra, PhD értekezés 2008, p.125. Semmelweis Egyetem, Budapest.

Received: 07.05.2012  
Accepted: 25.05.2012

Correspondence to:  
\*Judit Mészáros  
Semmelweis University Faculty of Health Sciences  
17 Vas St. 1088 – Budapest, Hungary  
tel.: +36 1 486 5910  
e-mail: meszarosj@se-etk.hu